Medical Education

House Staff Well-being

LORRIN M. KORAN, MD, and IRIS F. LITT, MD, Stanford, California

From a survey of 281 house-staff members of a university medical center, we found that nearly half the respondents were afraid to complain about their training programs and were concerned that their relationship with their partner would not survive the residency. In all, 40% reported that anxiety or depression impaired their performance for a month or more; 12% reported an increased use of alcohol, marijuana, or cocaine; and 7% an increased use of sedatives, stimulants, or opioids. Stressors and dysfunctional behaviors did not differ significantly between male and female house staff, but many women had more tenuous support systems. Married house staff had stronger support systems and less substance abuse, anxiety, and depression. Departments differed widely in house-staff morale, available social supports, and the frequency of dysfunctional behaviors. Residency program directors should assess their house staff's distress and study and initiate means to reduce stress, increase support, and facilitate coping.

(Koran LM, Litt IF: House staff well-being. West J Med 1988 Jan; 148:97-101)

The stress that residency training programs impose on young physicians is not benign. The sequelae include "impairment of patient care, the fostering of poor professional attitudes, and the development of long-term physician dissatisfaction [with medical practice]." Physicians who treat house staff have commented on their distressingly high rates of alcoholism, drug abuse, depressive disorders, and suicide. In a survey of substance use among house staff in Boston hospitals, 11% were currently using tranquilizers, 9% opiates, and 9% cocaine. Anational survey of internal medicine training programs revealed that about 1% of residents were granted leaves of absence because of emotional impairment; 5% of these residents made suicide attempts and almost half of these were successful.

This report provides cross-sectional data on stressors, support systems, and dysfunctional behaviors from 281 house staff drawn from all hospital departments within a university medical center. The data from distinct subgroups such as married house staff, female house staff—married and single—house staff with children, and those who admitted to substance abuse are presented and their implications explored.

Subjects and Methods

A 37-item questionnaire developed by the authors was distributed to all 401 house-staff members at a university medical center in February 1984, eight months into their residency year. The possibility of winning a cash prize by returning a completed questionnaire facilitated a 70% response rate (n = 281). Residents' anonymity was preserved by requesting coded questionnaires be returned unsigned to the medical center ombudsman's office. Frequency distributions were obtained for responses to all questions, and the data were analyzed using χ^2 tests to explore differences related to gender, marital status, and substance abuse. Because

many comparisons were examined, differences significant at the P = .05 level may well have been found by chance.

Results

Respondent Demographics and Working Hours

The respondents represented 22 departments or divisions. Response rates varied considerably among departments from a high of 100% in child psychiatry and neurosurgery to lows of 38% in orthopedics and 15% in cardiovascular surgery. The following departments or divisions had 10 or more respondents: medicine (41), pediatrics (32), anesthesia (28), general surgery (20), psychiatry (18), diagnostic radiology (18), obstetrics/gynecology (15), pathology (12), and radiation therapy (10). Of the remaining 87 respondents, 42 were in surgical specialty training programs. Nearly a third (30%) of the respondents were in their fourth or later years of postgraduate training. Their ages were distributed normally with a mean of 30 years (standard deviation = 3.2 years) and a range of 24 to 37 years. Two thirds (67%) of the respondents were men, 22% women and 11% did not answer this question. Of the house staff as a whole, 70% were men and 30% women. Half of the respondents were married and 22 % had children (Table 1).

In all, 6% of the respondents were on call daily (!), 33% three or more times each week, 39% twice a week, and the remainder (21%) once a week or less. A third of the respondent house staff "moonlighted," but only 5% (16 members) did so more than eight hours a week.

Stresses Reported by House Staff

One respondent expressed eloquently the stresses of residency training: "Trying to provide personal, conscientious care to patients—that is, living up to my own expectations—while sleep-deprived, poorly nourished, lonely, isolated and feeling unappreciated and at the same time trying to exert some modicum of control over my own life."

98 HOUSE STAFF WELL-BEING

In addition to stresses related to the training program, we assessed those derived from personal relationships, finances, and health. Of the respondents, 14% were very concerned and 32% somewhat concerned that their relationship with their "significant other" would not survive the residency. Almost a third (31%) felt socially isolated.

Professional relationships were also a source of stress for many. Nearly half (46%) of the respondents were afraid they would be labeled "a troublemaker" if they complained about their training programs. Some indicated that this fear had dissuaded colleagues from returning the questionnaire. Only a third were aware of grievance procedures in their department. One in six felt that they could not discuss with faculty attending physicians the issues embedded in prolonging the life of a terminally ill patient or those raised by a patient's death. The overwhelming majority (85%) reported frequently finding themselves with little compassion for patients or using derogatory names in discussing them.

Financial concerns affected 57% of the house staff "very much" or "moderately." One resident, for example, listed his "greatest problem since beginning this training program" as, "family needs, especially financial, must moonlight"; another listed "long hours with relatively low pay for an expensive area."

A third of the respondents had missed work because of illness, but 85% reported working though they would have advised a patient to stay at home. A fourth (26%) were worried about drug abuse by fellow house officers.

Supports Perceived by House Staff

A friend was the most common source of support cited by respondents (68%); family members ranked second (62%). A substantial proportion (27%) of respondents indicated that they had no close friend in whom to confide. Few would seek

TABLE 1.—Marital Status and Responsibility for Children Among 281 House Officers at a University Medical Center—1984				
	Number		Percent	
Married		. 139		50
With children	56		40	
Without children	81		58	
Unknown	2		1	
Not married		. 138		49
With children	7		- 5	
Without children	131		95	
Unknown marital status		4		_1
Total		. 281		100

	House Officers		
Reason	Male n=161, %	Female n=48, %	
No need felt	65	60	
No time for regular sessions	20	35	
Have to be more seriously disturbed	19	27	
Worried about confidentiality	21	13	
Worried about the stigma attached	20	10	
Financial concerns	16	15	
Did not know where to get it	11	15	

Persons for Not Cooking Counceling Among

support from a psychiatrist (16%), faculty member (11%), chief resident (6%), medical center ombudsman (6%), or counselor (4%). Two in five house officers, however, had felt the need for counseling moderately (18%), strongly (12%), or very strongly (10%), but only 2% had received any counseling. Among those experiencing a need, the most common reason given for not seeking counseling was insufficient time (Table 2). Worries about stigma and confidentiality dissuaded about a fifth of respondents. Less than a third (29%) of the respondents could turn for support to a personal physician who was not a fellow house officer.

With regard to support from the faculty, almost two thirds (64%) felt appreciated by faculty members, 79% felt there was a faculty member who would be their advocate if needed, and 63% felt that at least one faculty member represented a "true role model."

Psychopathology Possibly Related to Residency Stressors

In all, 40% of the respondents reported being "so depressed or anxious for four weeks or more during my training that my performance was impaired." Substance abuse, defined as the use of illicit drugs, self-prescription of psychoactive drugs, or increased use of alcohol affected a substantial proportion of house staff. Nearly one in eight (12%) reported an increased use of alcohol, marijuana, or cocaine since the start of training; 32% reported a decrease. About 7% reported an increase in sedative, stimulant, or opioid use since training began; 17% reported a decrease. Unfortunately, the questionnaire did not allow respondents to indicate that they did not use drugs; therefore, the "no change" response category included residents who never used drugs together with those whose use continued at a constant level. Drug use in the two categories was significantly related: 79% of those reporting increased use of alcohol, marijuana, or cocaine reported an increased use of sedatives, stimulants, or opioids. Similarly, 98% of those who reported a decrease in the first category reported a decrease in the second ($\chi^2 = 30.4$, degrees of freedom [df] = 2; P < .0001).

Stressor Disparities in Departments

Large differences were found across departments in house-staff morale, available social supports, and the frequency of pathologic behaviors. To protect confidentiality, specific departments are not identified here. Among those departments with more than ten respondents, fear of being labeled a troublemaker if one complained about the training program ranged from 29% to 67% of respondents. In these departments, 12% to 60% felt there was no faculty role model available and 20% to 88% felt they were not appreciated by the faculty. The proportion reporting increased substance abuse ranged from 0% to 33%. Most departments did not have grievance procedures or problem-solving mechanisms in place, and residents were frequently unaware of those that existed.

Substance Abuse Among Specific Groups of Residents

House staff who increased their drug use had a weaker social support system and a less comfortable relationship with the faculty than those residents whose drug use had decreased (Table 3). Nearly three quarters of those who reported increased drug use (73%) were unmarried as compared with half the respondents as a whole (Table 4). Resi-

TABLE 3.—Differences Associated With Patterns of Substance Abuse Among House Officers	at
a University Medical Center—1984	

Descriptor	Substan	ce Abuse	Unchanged Substance Use n=154, %		
	Increased n=33, %	Decreased n=90, %		χ2*	
Often worried that intimate relationship won't survive residency	79	51	47	9.81	
Can discuss prolonging patient's life with faculty	70	91	86	8.77	
Afraid of being labeled a troublemaker	67	48	41	9.81	
Moonlights	67	56	77	9.68	
Has a close friend to turn to †		70	76	11.73	

dents with no children were more likely to have increased their drug use during training than those with children.

House staff whose sedative, stimulant, or opioid use increased differed significantly from those whose use decreased. The former group was more likely to report impairment from depression and anxiety (60% versus 30%, $\chi^2 = 5.10$, P < .05), worry much or most of the time that their intimate relationships would not survive the residency (47% versus 7%, $\chi^2 = 44.2$, df = 2; P < .001), and lack close friends ($\chi^2 = 5.96$, df = 1; P < .02).

Female House Officers

The largest percentage of women respondents (n = 63)were residents in diagnostic radiology (15%), anesthesia (13%), obstetrics/gynecology (10%), child psychiatry (8%), and pathology (8%). None of the female respondents were in training in neurosurgery, orthopedics, cardiovascular surgery, urology, otolaryngology, or nuclear medicine. The women respondents' age distribution resembled that of the men; slightly more than half were younger than 30 years. No statistically significant differences were found between male and female house staff with regard to stressors such as fear of being labeled a troublemaker or pathologic behaviors such as self-reported anxiety and depression or increased substance abuse. The social support system of many female house officers, however, appeared to be tenuous. Fewer women than men were married (36% versus 54%, $\chi^2 = 6.23$, df = 1; P = .01). A fourth (24%) of women house-staff members reported worrying much or most of the time that their relationship with their significant other "won't survive the stress of training" compared with 14% of the men. A substantial proportion felt socially isolated (37%), had no close friend (25%), or felt a moderate to very strong need for counseling (40%). Despite the frequent expression of strong need for counseling, only 2% of women house staff actually received it.

The female residents' suggestions for improving the

training experience resembled those of the men except that slightly higher percentages of women desired hiring replacements for sick house staff (71% versus 62%), desired "a way not to feel guilty if I can't come in" (66% versus 48%), and suggested increased insurance coverage for counseling (50% versus 41%), counseling at the student health service (48% versus 32%), and support groups (34% versus 25%).

Married House Officers

The proportion of married house officers has increased over the past decade. Half our sample were married (Table 1).

The strength of support systems and the prevalence of emotional distress and increased substance abuse differed significantly between married and unmarried house staff (Table 4). Twice the proportion of unmarried house staff reported feelings of isolation compared with the proportion within the married group. More than a fourth of unmarried house staff worried much or most of the time that their personal relationships might not survive the training period compared with 6% of married house staff. Half of unmarried house staff reported at least four weeks of impairment from depression or anxiety, compared with 30% of married house staff. Three times the proportion of unmarried house staff increased their use of alcohol, marijuana, or cocaine compared with the proportion within the married group.

Married House Officers With Children

Two out of five (41%) married house staff had children, as did 5% of those who were unmarried; of all respondents, 22% had children. Of those with children, 57% had one child, 27% had two and 15% had three or more. Not surprisingly, age was significantly related to being a parent: two thirds of those with children were older than 30 years. We were concerned to find that only 20% of the children of house-staff members had a personal physician other than their parent.

The prevalence of moonlighting increased with family size, probably because of the increased financial needs of

TABLE 4.—Differences in Stressors, Supports, and Pathologic Behavior Between Married and Unmarried House Officers at a University Medical Center—1984 Descriptor Married, n=139, % Not Married, n=138, % 28 22.79* (df=1)Worried much or most of the time that intimate relationship won't survive residency 12.47* (df=1)41 50 10.86* (df=1)Use of alcohol, marijuana, or cocaine 17 Increased Decreased 29 $8.21 \dagger (df = 1)$ df = degrees of freedom *P<.001. tP<.02.

100 HOUSE STAFF WELL-BEING

larger families. A third to half of those with children moonlighted compared with 25% of married house staff who did not have children. Nearly all (90%) of those who moonlighted eight or more hours a week had children. Although the difference was not statistically significant (P < .08), absence from work was twice as frequent among house staff with two or more children than among those with fewer or no children.

House officers with children were less likely to say they had a "close friend" than those with no children (55% versus 78%, $\chi^2 = 8.65$, df = 1, P < .01), and only 31% with children would turn to "a friend" with serious concerns compared with 69% of those without children. House officers with children were more worried about being labeled a troublemaker for complaining about the training program than those without children (50% versus 33%, $\chi^2 = 5.64$, df = 1, P < .02).

Discussion

The survey results confirm earlier findings^{1,3,6,7} that stressors are plentiful and that persistent, detrimental emotional states are common during the residency experience. The transition from medical student to practicing physician is inherently stressful. A young graduate must master complex new skills: relating comfortably to patients and their families, diagnosing and managing diseases in the face of uncertainty, and accepting responsibility and authority in situations involving pain, disability, and death. Young physicians must also learn to cope with the dysphoria engendered by certain groups of patients.8 The transition to becoming a physician often occurs simultaneously with other personal sources of stress: geographic separation from friends and family, new marriage, parenthood, and increased worries over accumulated debts. We view residency stressors, after being filtered through individual coping styles and moderated by support systems inside and outside the training program, as contributing strongly to dysfunctional behaviors during the residency and perhaps in later professional life. This formulation, while supported by several studies, 6,9 requires more careful and thorough empiric evaluation.

Increased stress appears to be associated with weaker support systems and more dysfunctional behavior. 9,10 This association and the effect of residents' coping styles on substance abuse, emotional distress or disorder, and satisfaction with professional life on residents' coping styles should be systematically studied. Coping strategies used during the residency may predict a future ability to deal with stress both in the personal and professional arenas, 11 although a recent study found that physicians' coping styles were not closely related to measures of life satisfaction. 12 The effects of sleep deprivation deserve special study because sleep-deprived residents have been found to make more errors on cognitive tasks and to be more depressed and irritable. 13,14 Most interns work 70 to 100 hours a week and are repeatedly required to stay awake for 36 hours or more. The sequelae of sleep deprivation are antithetical to the goals of residency training. 15

Alcohol and drug abuse both during residency and in later life affect physicians at least as often as the general urban population. ¹⁶ Physicians in certain specialties may be at a greater risk of drug abuse and dependence. ¹⁷ In the past decade the reality of the "impaired physician" has been recognized. ¹⁸ The current loss of physicians to these psychopathologic behavior patterns is a tragic waste of persons who have been trained to ameliorate human suffering.

In this study, the residents who had increased their substance abuse during training appeared to be the most stressed. Because of the cross-sectional nature of our survey, however, we cannot infer the direction of the relationships between stress and substance abuse. Do house staff who are depressed, anxious, socially isolated, or concerned about personal relationships turn to drugs or alcohol (or both), or are these psychosocial states the consequences of substance abuse? In any case, the increased substance abuse and psychosocial morbidity reported by some respondents are cause for great concern.

Of our respondents, 40% reported being sufficiently depressed or anxious for a month or more that their work performance was impaired. This figure is higher than that reported in a study of interns (27%)³ and much higher than the sixmonth prevalence figure reported for comparably aged people in the general population (about 7%). 19 Part of the difference probably stems from different case finding and definition methods, but, by any measure, this frequency of depressive and anxiety disorders is alarming. Earlier studies have reported a relationship of depression during residency training to the number of hours worked,7 to self-reported depression test scores at the start of training, to parental history of depression, and to the presence of a "workaholic personality style." Residency program directors should attempt to replicate and extend these findings about risk factors and should study the effectiveness of preventive interventions.

Marital disruption, although typically ensuing in later years when hoped-for changes have not occurred, often has its roots in the loneliness and frustration of the residency training years. ^{20,21} Uncontrolled studies suggest that marital therapy and support groups for house officers' spouses may be beneficial, but controlled research is lacking. ^{22,23} Our results suggest that, contrary to the concern that marriage and residency may not mix, married house staff appear to be coping better with the stresses of training than those who are unmarried.

As in other studies, ^{5,10} women house staff appeared to have somewhat fewer social supports than their male counterparts and perhaps greater vulnerability to the adverse effects of stress. They reported often feeling (or actually being) excluded from the "fraternity of their male peers." As Rinke²⁴ has pointed out,

Many women enter medical school with negative self-images, feeling less adequate than men, and these feelings are projected onto female peers: no woman can be as competent as a man. This unfortunate phenomenon occurs at a time when women could benefit from supporting each other and sharing their common experiences.

Women physicians are at greater risk of committing suicide than male physicians and the general population.⁷ The risk is particularly acute among unmarried women physicians. Preventive strategies initiated during residency years deserve urgent study.

The stresses of residency training and their sequelae have been acknowledged increasingly in the past decade. With this acknowledgement has come a number of suggestions for how training programs can reduce unnecessary distress and how residents can better cope with the unavoidable stresses. Among the most common suggestions are increasing the interval between on-call nights, establishing a night "float" system, and hiring replacements when house staff are sick rather than increasing the workload of those remaining. Some medical educators are concerned that decreasing the number of on-call nights may impair the quality

of residents' educational experience or simply permit unnecessary moonlighting. The question deserves empirical study, but available evidence suggests that frequent nights on call may impair learning. Many moonlighting house staff in our sample appeared to have a genuine need because moonlighting was more common among house staff with family responsibilities.

Other widespread suggestions for reducing stress include providing better career counseling and encouraging discussion with faculty physicians of emotionally draining experiences such as managing "difficult" patients, unexpected deaths, and ethical dilemmas. Suggestions less widely discussed include reducing financial strains by increasing salaries or providing housing subsidies, establishing procedures for house staff to voice dissatisfactions with the training program without fear of reprisal, and creating part-time residency positions for house staff with family responsibilities. All of these suggestions (and others) were voiced by the residents in the present study, and many were incorporated in the final report of the medical center's House Staff Well-being Committee to the dean and hospital administrator.*

Steps to increase the support mechanisms available to residents have also been suggested. The most widely studied intervention has been establishing resident support groups. Anecdotal reports suggest that these are highly beneficial. 1,2,23,27,28 About 40% of residency training programs currently offer some form of support group, the proportion ranging from 20% among surgical programs to 59% in family practice and 68% in psychiatry programs. About 20% of our respondents desired support groups. Some educators favor weekly social get-togethers of house staff and senior faculty to facilitate communication and build morale. More than a third of our respondents wanted counseling, and almost half requested increased insurance coverage for psychotherapy. The intervention most frequently endorsed (by about 75%), however, was hiring replacements when a house officer was unable to work, rather than increasing the work loads of those remaining. Replacements are difficult to find, but fourth-year medical students can take on a limited caseload as externs, house-staff members can be shifted temporarily from lightly used consulting services or electives, and recently established practitioners may have time to assume the care of a number of patients in hospital.

Ziegler and associates²⁰ have summarized methods for coping more effectively with the unavoidable stresses of residency training. They group coping strategies under the rubrics of recognizing stressors, time management, behavior modification, social supports, environment, and relaxation techniques. Because these coping strategies may reduce morbidity, they deserve wide study and dissemination to house staff. An annual orientation meeting for new house staff could be a useful forum.

The medical profession devotes its energies to preventing, ameliorating, and curing disease. Paradoxically, the profession attends inadequately to these responsibilities for its own

members, particularly its newest practitioners. We believe that this neglect stems in part from physicians' and others' resistance to recognizing the importance of mental disorders such as depression and substance abuse and the role of psychosocial stress in their cause. Physicians may also resist acknowledging that we are as susceptible as our patients to stress-related disorders. Preserving elements of "rites of passage" undisturbed and economic concerns of hospital administrators have also been suggested as sources of resistance to change.

Young physicians deserve better care from their mentors. We urge residency program directors to assess the level and sources of distress among their house staff and to initiate and study actions designed to reduce stress, increase support, and facilitate coping.

REFERENCES

- 1. Reuben DB, Novack DH, Wachtel TJ, et al: A comprehensive support system for reducing house staff distress. Psychosomatics 1984; 25:815-820
- 2. Borenstein DB: Should physician training centers offer formal psychiatric assistance to house officers? A report on the major findings of a prototype program. Am J Psychiatry 1985; 142:1053-1057
- 3. Clark DC, Salazar-Grueso E, Grabler P, et al: Predictors of depression during the first six months of internship. Am J Psychiatry 1984; 141:1095-1098
- 4. McAuliffe WE, Wechsler H, Rohman M, et al: Psychoactive drug use by young and future physicians. J Health Soc Behav 1984: 25:34-54
- 5. Smith JW, Denny WF, Witzke B: Emotional impairment in internal medicine house staff. JAMA 1986; 255:1155-1158
 - 6. McCue JD: The distress of internship. N Engl J Med 1985; 312:449-452
- 7. Valko RJ, Clayton PJ: Depression in the internship. Dis Nerv Syst 1975; 36:26-29
- 8. Herzog DB, Wyshak G, Stern TA: Patient-generated dysphoria in house officers. J Med Educ 1984: 59:869-874
- 9. Mazie B: Job stress, psychological health, and social support of family practice residents. J Med Educ 1985; 60.935.941
- 10. Elliot DL, Girard DE: Gender and the emotional impact of internship. J Am Med Wom Assoc 1986; 41:54-56
- 11. Donnelly JC: Coping and development during internship, *In* Callan JP (Ed): The Physician: A Professional Under Stress. Norwalk, Conn. Appleton-Century-Crofts, 1983, pp 46-80
- 12. Linn LS, Yager J, Cope D, et al: Health habits and coping behaviors among practicing physicians. West J Med 1986; 144:484-489
- 13. Friedman RC, Kornfeld DS, Bigger TJ Jr: Psychological problems associated with sleep deprivation in interns. J Med Educ 1973; 48:436-441
- 14. Friedman RC, Bigger TJ Jr, Kornfeld DS: The intern and sleep loss, N Engl J Med 1971; 285:201-203
- Asken MJ, Raham DC: Resident performance and sleep deprivation: A review. J Med Educ 1983; 58:382-388
- 16. McAuliffe WE, Rohman M, Santangelo S, et al: Psychoactive drug use among practicing physicians and medical students. N Engl J Med 1986; 315:805-809
- 17. Ward CF, Ward GC, Saidman LJ: Drug abuse in anesthesia training programs. A survey: 1970 through 1980. JAMA 1983; 250:922-925
- 18. Scheiber SC, Doyle BB (Eds): The Impaired Physician. New York, Plenum Press, 1983
- Myers JK, Weissman MM, Tischler GL, et al: Six-month prevalence of psychiatric disorders in three communities. Arch Gen Psychiatry 1984; 41:959-967
- 20. Ziegler JL, Strull WM, Larsen RC, et al: Stress and medical training—Medical Staff Conference, University of California, San Francisco. West J Med 1985; 142:814-819
- $21.\,$ Landau C, Hall S, Wartman SA, et al: Stress in social and family relationships during the medical residency. J Med Educ 1986; 61:654-660
- 22. Glick ID, Borus JF: Marital and family therapy for troubled physicians and their families: A bridge over troubled waters. JAMA 1984; 251:1855-1858
- 23. Bergman AS: Marital stress and medical training: An experience with a support group for medical house staff wives. Pediatrics 1980; 65:944-947
- $24.\ Rinke\ CM:$ The professional identities of women physicians. JAMA 1981; $245{:}2419{-}2421$
- 25. Blackwell B: Prevention of impairment among residents in training. JAMA 1986; $255{:}1177{-}1178$
- 26. Siegel B, Donnelly JC: Enriching personal and professional development: The experience of a support group for interns. J Med Educ 1978; 53:908-914
- 27. Werner ER, Adler R, Robinson K, et al: Attitudes and interpersonal skills during pediatric internship. Pediatrics 1979; 63:491-499
- 28. Berg JK, Garrard J: Psychosocial support in residency training programs. J Med Educ 1980; 55:851-857

^{*}M. Allen, MD, A. Barbour, MD, D. Berger, MD, P. Bittner, MD, R. Cutler, MD, S. Donaldson, MD, C. Flexner, MD, K. Marton, MD, M. Miner, MD, R. Rosen, MD, J Stenger, MD, and M. Knox were members of the Committee on House Staff Well-being at our medical center.